

Exercises - Problems Sheet # 3: String, Structures, and Enumeration
Spring 2024

No. Of Questions: 9

No. Of Pages: 2

Answer the following:

- 1) Write a C function that concatenates two input strings S1 and S2 in string S1.
- 2) Write a C program that reads 10 characters from the user, and then searches for the position of the character z.
- 3) Write a C program that reads string S1 and certain letter from the user, then call your own function that return the number of occurrences of the given character in the given string.
- 4) Write a C function that take two strings (array of characters) and return one if the 1st is part of the 2nd and zero otherwise
- 5) Write a C code to reverse a string by recursion.
- 6) Write a function ``replace" which takes a string as a parameter and replaces all spaces in that string by minus signs and delivers the number of spaces it replaced.
- 7) What is the output of these codes?

a)

```
int main()
{
    enum status {pass, fail, absent};
    enum status stud1, stud2, stud3;
    stud1 = pass;
    stud2 = absent;
    stud3 = fail;
    printf("%d %d %d\n", stud1, stud2, stud3);
    return 0;
}
```

b)

```
int main()
{
    enum days {MON=-1, TUE, WED=6, THU, FRI, SAT};
    printf("%d, %d, %d, %d, %d, %d\n", MON, TUE, WED, THU,
    FRI, SAT);
    return 0;
}
```

8) Declare a structure Employee with id_no, salary, birth_date – which is day, month, and year- id for 5 tasks the employee has. For example the data for an employee may be: id_no = 5, salary = 7500, birth_date = { day= 3, month= 8, year = 1980}, tasks_ids = {1, 3, 4, 9, 12}.

a) For the previous declaration, write a function which input one employee data.

b) For the previous declaration, write a function which take an array of employee's data and an id_no, the function should search for that employee in the employees array and return his salary, or return -1 if the employee id not found.

c) Use all the previous in a program that enter data for 5 employees, then the program takes one id_no for an employee, search for it, if found return his salary, otherwise write "NOT FOUND".

9) Show the output:

```
main() {
    struct s {
        double x;
        int y;
    } a_struct;
    printf("The size of a_struct: %d-byte\n",
sizeof(a_struct));
}
```

With our best wishes;